

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 80-56

NPDES NO. CA0038628

WASTE DISCHARGE REQUIREMENTS FOR:

CENTRAL MARIN SANITATION AGENCY
SAN RAFAEL SANITATION DISTRICT
CITY OF SAN RAFAEL
SANITARY DISTRICT NO. 1 OF MARIN COUNTY
SANITARY DISTRICT NO. 2 OF MARIN COUNTY
CITY OF LARKSPUR
MURRAY PARK SEWER MAINTENANCE DISTRICT
CALIFORNIA DEPARTMENT OF CORRECTIONS, SAN QUENTIN PRISON
SAN QUENTIN SEWER MAINTENANCE DISTRICT
MARIN COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter Board), finds that:

1. Central Marin Sanitation Agency (hereinafter discharger) applied for waste discharge requirements and a permit to discharge waste under the National Pollutant Discharge Elimination System (NPDES) by application dated August 15, 1980.
2. San Rafael Sanitation District, City of San Rafael, Sanitary District No. 1 of Marin County, Sanitary District No. 2 of Marin County, City of Larkspur, Murray Park Sewer Maintenance District, California Department of Corrections (San Quentin Prison) and San Quentin Sewer Maintenance District (hereinafter sewerage entities) discharge waste to the following plants for treatment and disposal: San Rafael Sanitation District's Main and Marin Bay Plants, Sanitary District No. 1 Plant and San Quentin Prison Plant.
3. The discharger proposes that:
 - a. New transport, treatment and disposal facilities will be built to handle a dry weather flow of 10.0 million gallons per day (mgd).
 - b. Waste from the sewerage entities will be discharged to the new facilities, and the plants listed in Finding 2 will be shut down.
 - c. Treated effluent will be discharged into San Pablo Bay off Point San Quentin at approximately 20 foot depth and 35°1 dillution (37° 56' 55" latitude and 122° 27' 30" longitude).

- d. Sewerage entities may operate their own sewage collection systems or arrange for the discharger to operate them.
- e. During periods of high wet weather flow, chemicals will be added to aerated grit chambers and the flow in excess of 25 mgd will go to dual media filters. Up to 25 mgd of this flow and all dry weather flow will go to fixed film reactors, aeration tanks and then final clarifiers and filters. The effluent will be chlorinated, held, dechlorinated and discharged through the outfall.
- f. Average annual flow will be 12.6 mgd with the following constituents:

<u>Constituents</u>	<u>Milligrams per liter (mg/l)</u>	<u>Pounds per day</u>
BOD	25	2627
Suspended Solids	25	2627

- 4. In wet weather, untreated sewage overflows manholes or bypasses to San Francisco Bay and its tributary streams.
- 5. The discharger has no pretreatment program or ordinance to assure that toxic wastes will not be discharged to the sewers and disrupt treatment.
- 6. A Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) was adopted by the Board in April 1975. The Basin Plan contains water quality objectives for San Francisco Bay and its tributaries.
- 7. The beneficial uses of San Francisco Bay and its tributaries, including San Rafael and Corte Madera Creeks, in the vicinity of the sewer service areas and outfall are:
 - a. Water contact recreation including wading, swimming, and water skiing;
 - b. Non-contact water recreation including picnicking, hiking, bird watching, esthetic enjoyment, pleasure boating and marinas;
 - c. Commercial and sport fishing;
 - d. Wildlife habitat;
 - e. Preservation of habitat for rare and endangered species;
 - f. Marine habitat;
 - g. Fish migration;
 - h. Fish Spawning;
 - i. Shellfish harvesting; and
 - j. Navigation.

8. The Basin Plan prohibits the discharge of wastewater into any nontidal water or dead-end slough or similar confined water areas or their immediate tributaries.
9. The Basin Plan prohibits discharge of all conservative toxic and deleterious substances above those levels, which can be achieved by source control, to waters of the Basin.
10. The U. S. Environmental Protection Agency has promulgated regulations requiring the discharger to develop and implement a pretreatment program in accordance with a compliance time schedule. The discharger must control the industrial waste discharged to the sewers to protect the treatment plant structure from damage and the treatment processes from interference, and to prevent discharge of pollutants not adequately removed by the treatment.
11. Novato Sanitary District, as lead agency for the Eastern Marin and Southern Sonoma Wastewater Agencies which include the discharger and sewerage entities, requested an NPDES Permit time extension for construction of required facilities. This request was pursuant to Section 301(i)(1) of the Federal Water Pollution Control Act (FWPCA), as amended. The Board finds the request warranted and grants the time extension for compliance with Section 301(b) pursuant to Section 301(i) of the Act.
12. Novato Sanitary District as lead agency for the Eastern Marin and Southern Sonoma Wastewater Agencies certified a final Environmental Impact Report (EIR) on September 17, 1979 for their wastewater management projects in accordance with the California Environmental Quality Act (Public Resources Code, Section 2100 et seq.). The members of this Regional Board have received and reviewed a summary of these documents.
13. The EIR specifies that this project could have the following adverse impacts on the environment:
 - a. Possible odors from the wastewater treatment plant and pumping stations may affect nearby residents.
 - b. Possible undesirable visual impact of treatment plant construction and operation could result.
14. Compliance with Standard Provision A.1. of this Order will mitigate adverse impacts of Finding 13.a. To maintain compliance, the discharger will cover the treatment plant headworks, sludge handling areas, and digesters, and provide odor control on the fixed film reactor. The trapped exhaust gases will be scrubbed before venting to the atmosphere.
15. The treatment plant layout and design will be developed with the assistance of an architectural designer and reviewed by a committee of local citizens and officials to mitigate adverse impacts of Finding 13.b.

16. The Board has notified the discharger, sewerage entities, and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
17. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, pursuant to the provisions of Division 7 of the California Water Code and regulations adopted thereunder and to the provision of the Federal Water Pollution Control Act, as amended, and regulations and guidelines adopted thereunder, that the discharger (and where specified, the sewerage entities) shall comply with the following:

A. Prohibitions

1. The discharger and sewerage entities are prohibited from bypassing or overflowing untreated wastewater to waters of the United States, either at the plant or from the collection system.
2. The discharger and sewerage entities are prohibited from discharging wastewater into the nontidal waters and dead-end sloughs or similar confined water areas of San Francisco Bay and its tributaries.
3. The discharger and sewerage entities are prohibited from discharging wastewater at any point at which the wastewater does not receive an initial dilution of at least 10:1 (receiving water to wastewater flow).
4. The average dry weather flow shall not exceed 10.0 mgd. Average shall be determined over three consecutive dry weather months each year.

B. Effluent Limitations

1. The discharge of an effluent containing constituents in excess of the following limits is prohibited:

<u>Constituents</u>	<u>Units</u>	<u>30-day Average</u>	<u>7-day Average</u>	<u>Daily Maximum</u>	<u>Instantaneous Maximum</u>
a. BOD	mg/l	30	45	60	
b. Suspended Solids	mg/l	30	45	60	
c. Oil & Grease	mg/l	10	—	20	
d. Settleable Solids	ml/l/hr	0.1	—	—	0.2
e. Chlorine Residual	mg/l	—	—	—	0.0

f. Total Coliform Organisms

The waste as discharged, or at some place in the treatment process, shall meet the following limits of quality:

The total coliform bacteria for a median of five consecutive effluent samples shall not exceed 240 per 100 milliliters. Any single sample shall not exceed a most probable number (MPN) of 10,000 total coliform bacteria per 100 milliliters when verified by a repeat sample taken within 48 hours.

g. Toxicity

The survival of an acceptable test organism in 96-hour bioassays of the effluent shall achieve a 90 percentile value of not less than 50 percent survival.

h. pH

The pH of the discharge shall not exceed 9.0 nor be less than 6.0.

2. The arithmetic mean of the biochemical oxygen demand (5 day, 20°C) and suspended solids values, by weight, for effluent samples collected in a period of 30 consecutive calendar days shall not exceed 15 percent of the arithmetic mean of the respective values, by weight, for influent samples collected at approximately the same times during the same period (85 percent removal).
3. Representative samples of the effluent shall not exceed the following limits more than the percentage of time indicated: (1)

<u>Constituent</u>	<u>Unit of Measurement</u>	<u>50% of time</u>	<u>10% of time</u>
a. Arsenic	mg/l	0.01	0.02
b. Cadmium	mg/l	0.02	0.03
c. Total Chromium	mg/l	0.005	0.01
d. Copper	mg/l	0.2	0.3
e. Lead	mg/l	0.1	0.2
f. Mercury	mg/l	0.001	0.002
g. Nickel	mg/l	0.1	0.2
h. Silver	mg/l	0.02	0.04
i. Zinc	mg/l	0.3	0.5
j. Cyanide	mg/l	0.1	0.2
k. Phenolic Compounds	mg/l	0.5	1.0

(1) These limits are intended to be achieved through secondary treatment, source control and application of pretreatment standards.

1. Total Identifi- able Chlorinat- ed Hydro- carbons ⁽²⁾	mg/l	0.002	0.004
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(2) Total Identifiable Chlorinated Hydrocarbons shall be measured by summing the individual concentrations of DDT, DDD, DDE, aldrin, BHC, chlordane, endrin, heptachlor, lindane, dieldrin, polychlorinated biphenyls, and other identifiable chlorinated hydrocarbons.

C. Receiving Water Limitations

1. The discharge of waste shall not cause the following conditions to exist in waters of the State at any place:
 - a. Floating, suspended, or deposited macroscopic particulate matter or foam;
 - b. Bottom deposits or aquatic growths;
 - c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;
 - d. Visible, floating, suspended, or deposited oil or other products of petroleum origin;
 - e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.

2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State in any place within one foot of the water surface:
 - a. Dissolved oxygen 5.0 mg/l minimum. Annual median - 80% saturation. When natural factors cause lesser concentration(s) than those specified above, then this discharge shall not cause further reduction in the concentration of dissolved oxygen.
 - b. Dissolved sulfide 0.1 mg/l maximum.
 - c. pH Variation from natural ambient pH by more than 0.2 pH units.
 - d. Un-ionized Ammonia 0.025 mg/l annual median
as N 0.4 mg/l maximum

D. Provisions

1. Where concentration limitations in mg/l are contained in this permit, the following mass emission limitations shall also apply as follows:

$$\text{Mass Emission Limit in lbs/day} = \text{Concentration limit in mg/l} \\ \times 8.34 \times \text{Actual Flow in mgd Averaged Over the Time Interval} \\ \text{to which the Limit Applies.}$$

2. The discharger and sewerage entities shall develop a pretreatment program under the authority of Section 307(b) (8) of the Clean Water Act.
3. The discharger and sewerage entities shall ensure compliance with pretreatment standards promulgated under Section 307(b) and (c) of the Clean Water Act.
 - a. Compliance by existing industrial sources with pretreatment standards shall be within 3 years of the date of promulgation of the standard unless a shorter compliance time is specified.
 - b. Compliance by new sources of industry with promulgated pretreatment standards shall be required upon commencement of discharge.
4. The discharger and sewerage entities shall submit any request to modify pretreatment standards in accordance with federal requirements at the time of application for pretreatment program approval or wait until the waste discharge requirements are reissued.
5. The discharger and sewerage entities shall develop and implement a pretreatment program which shall consist of:
 - a. A local pretreatment ordinance or equivalent
 - b. A use permit system
 - c. A program of inspection to ensure compliance with the ordinance and use permit
 - d. An enforcement program sufficient to obtain compliance with the provisions of the ordinance or use permit.
6. The discharger and sewerage entities shall comply with the following time schedule to achieve compliance with Provision D.5 of this Order:

<u>Task</u>	<u>Completion Date</u>
a. Submit the results of an industrial user survey.	March 31, 1981
b. Submit an evaluation of the legal authority necessary for the administration and enforcement of	

the requirements of Sections 307(b) and (c) and 402(b)(8) of the Clean Water Act.

March 31, 1981

- c. Submit a determination of technical information necessary to develop the pretreatment ordinance or other means of enforcing pretreatment standards. March 31, 1981
 - d. Submit a sewer use ordinance March 31, 1981
 - e. Submit an evaluation of the financial programs and revenue sources to implement the program July 1, 1982
 - f. Submit design of a monitoring program which will implement the requirements of the pretreatment program. July 1, 1982
 - g. Submit a list of monitoring equipment required to implement the pretreatment program and a description of municipal facilities necessary for monitoring and analysis of industrial wastes. July 1, 1982
 - h. Submit specific effluent limitations for the general prohibited pollutants (40 CFR 403.5) which shall be incorporated into the pretreatment ordinance. July 1, 1982
 - i. Submit request for pretreatment program approval. December 31, 1982
7. In reviewing compliance with the limits of Effluent Limitation B.2. of this Order, the Board will take special note of the difficulties encountered in achieving compliance during periods of high wet weather flow.
8. The discharger and sewerage entities shall comply with the following time schedule to achieve compliance with Prohibition A.1. of this Order:

Task

Completion Date

- a. Make inspection during wet weather and report where untreated sewage bypassing or overflow from any of the sewer systems occurs May 1, 1981
- b. Submit description of actions necessary to stop whatever sewage bypassing and overflow is found and schedule of their completion dates September 30, 1981

- c. Document availability of funding
for corrective actions June 1, 1982
 - d. Full compliance July 1, 1983
9. The discharger is required to provide to the Board by January 15, 1981, and quarterly thereafter, a report on progress toward compliance with Provisions D.6 and D.8 of this Order.
 10. The discharger shall submit a contingency plan that is acceptable to this Board's Executive Officer by March 1, 1982, and then, review and update the plan annually as required by Board Resolution No. 7410. The discharge of pollutants in violation of this Order where the discharger has failed to develop and/or implement a contingency plan will be basis for considering such discharge a willful and negligent violation of this Order pursuant to Section 13387 of the California Water Code.
 11. The discharger shall comply with a Self-Monitoring Program as ordered by the Executive Officer.
 12. The discharger shall comply with all items of the attached "Standard Provisions, Reporting Requirements and Definitions" dated April 1977.
 13. This Order expires November 1, 1985. The discharger must file a report of waste discharge in accordance with Title 23, Chapter 3, Subchapter 9, of the California Administrative Code not later than 180 days in advance of such expiration date as application for issuance of new waste discharge requirements.
 14. This Order shall serve as a National Pollutant Discharge Elimination System permit pursuant to Section 402 of the Federal Water Pollution Control Act or amendments thereto, and shall become effective 10 days after date of its adoption provided the Regional Administrator, Environmental Protection Agency, has no objection. If the Regional Administrator objects to its issuance, the permit shall not become effective until such objection is withdrawn.

I, Fred H. Dierker, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on November 4, 1980.

FRED H. DIERKER
Executive Officer

Attachment:
Standard Provisions, Reporting
Requirements & Definitions (April 1977)

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

FINAL
SELF-MONITORING PROGRAM
FOR

Central Marin Sanitary Agency

NPDES NO. CA0038628

ORDER NO. 80-56

CONSISTS OF

PART A

AND

PART B

PART B

I. DESCRIPTION OF SAMPLING STATIONS

A. INFLUENT AND INTAKE

<u>Station</u>	<u>Description</u>
A-001	At any point in the treatment facilities headworks at which all waste tributary to the system is present and preceding any phase of treatment.

B. EFFLUENT

<u>Station</u>	<u>Description</u>
E-001	At a point in the outfall from the treatment facilities between the point of discharge and the point at which all waste tributary to that outfall is present. (May be the same location as E-001-D.)
E-001-D	At any point in the disinfection facilities for Waste E-001, at which point adequate contact with the disinfectant is assured.
E-001-S	At any point in the treatment facilities following dechlorination.

C. RECEIVING WATERS

<u>Station</u>	<u>Description</u>
C-1	At a point in San Pablo Bay directly above the center of the diffuser
C-2	At a point in San Pablo Bay located 200 feet southerly from the geometric center of the discharge diffuser.
C-3	A a point in San Pablo Bay located 200 feet Northerly from the geometric center of the discharger diffuser.

- C-4 At a point in San Pablo Bay located 200 feet easterly from the geometric center of the discharge diffuser.
- C-5 At a point in San Pablo Bay located 200 feet westerly from the point of discharge.
- C-6 At a point in San Francisco Bay located 2000 feet northerly from the point of discharge.

D. LAND OBSERVATIONS

<u>Station</u>	<u>Description</u>
P-1 thru P-'n'	Located at the corners and midpoints of the perimeter fenceline surrounding the treatment facilities. (A sketch showing the location of these stations will accompany the initial reports).

E. OVERFLOWS AND BYPASSES

<u>Station</u>	<u>Description</u>
O-1 thru O'n'	Bypass or overflows from manholes, pump stations or collection system.
	Note: Bypass shall be reported to this Regional Board by telephone immediately after occurrence.
	A written report shall be filed with the Board within 5 working days which shall contain information such as quantity involved, location, course of bypass, nature of affects, and corrective measures taken.

II. SCHEDULE OF SAMPLING MEASUREMENTS AND ANALYSIS

The schedule of sampling, measurements and analysis shall be that given in Table 1.

III. MODIFICATIONS TO "PART A"

A. This Monitoring program does not include the following sections of Part A, dated January 1978: C.3. C.4.

I, Roger B. James, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No. 80-56.
2. Is effective on the date shown below.
3. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the discharger, and revisions will be ordered by the Executive Officer.

ROGER B. JAMES
Executive Officer

Effective Date January 16, 1985

Attachments

Table I
Form A

TABLE I
SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

Sampling Station	A	E-001	E-001-D/ E-001/S	All C Sta.	All P Sta.	O Sta. (1)
TYPE OF SAMPLE	C-24	G C-24 Cont	G C-24 Cont	G	O	O
Flow Rate (mgd)	D		D			
BOD, 5-day, 20°C, or COD (mg/l & kg/day)	5/W	5/W				
Chlorine Residual & Dos- age (mg/l & kg/day)			(3) 2H or Cont			
Settleable Matter (ml/1-hr. & cu. ft./day)		D				
Total Suspended Matter (mg/l & kg/day)	5/W	5/W				
Oil and Grease (mg/l & kg/day)		(2) M				
Coliform (Total) (MPN/100 ml) per req't			5/W			
Fish Tox'y 96-hr. TL % Surv'l in undiluted waste				M		
Ammonia Nitrogen (mg/l & kg/day)		W				
Nitrate Nitrogen (mg/l & kg/day)						
Nitrite Nitrogen (mg/l & kg/day)						
Total Organic Nitrogen (mg/l & kg/day)						
Total Phosphate (mg/l & kg/day)						
Turbidity (Jackson Turbidity Units)				Q		
pH (units)		D		Q		
Dissolved Oxygen (mg/l and % Saturation)		D		Q		
Temperature (°C)		D		Q		
Apparent Color (color units)				Q		
Secchi Disc (inches)				Q		
Sulfides (if DO<2.0 mg/l) Total & Dissolved (mg/l)		W		Q		
Arsenic (mg/l & kg/day)		Q				
Cadmium (mg/l & kg/day)		Q				
Chromium, Total (mg/l & kg/day)		Q				
Copper (mg/l & kg/day)		Q				
Cyanide (mg/l & kg/day)		Q				
Silver (mg/l & kg/day)		Q				
Lead (mg/l & kg/day)		Q				

TABLE I (continued)											
SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS											
Sampling Station	A	E-001			E-001-D/ E-001-S			All C Sta.	All P Sta.	(1) O Sta.	
TYPE OF SAMPLE	C-24	G	C-24	Cont	G	C-24	Cont	G	O	O	
Mercury (mg/l & kg/day)			Q								
Nickel (mg/l & kg/day)			Q								
Zinc (mg/l & kg/day)			Q								
Phenolic Compounds (mg/l & kg/day)			Q								
All Applicable Standard Observations		D						Q	W	(1) E	
Bottom Sediment Analyses and Observations											
Total Ident. Chlor. Hydro- carbons (mg/l & kg/day)			2/Y								
Un-ionized Ammonia as N (mg/l)								Q			

LEGEND FOR TABLE

TYPES OF SAMPLES

G = grab sample
 C-24 = composite sample - 24-hour
 C-X = composite sample - X hours
 (used when discharge does not
 continue for 24-hour period)
 Cont = continuous sampling
 DI = depth-intergrated sample
 BS = bottom sediment sample
 O = observation

TYPES OF STATIONS

I = intake and/or water supply stations
 A = treatment facility influent stations
 E = waste effluent stations
 C = receiving water stations
 P = treatment facilities perimeter stations
 L = basin and/or pond levee stations
 B = bottom sediment stations
 G = groundwaters stations

FREQUENCY OF SAMPLING

E = each occurrence
 H = once each hour
 D = once each day
 W = once each week
 M = once each month
 Y = once each year

2/H = twice per hour
 2/W = 2 days per week
 5/W = 5 days per week
 2/M = 2 days per month
 2/y = once in March and
 once in September
 Q = quarterly, once in
 March, June, Sept.
 and December

2H = every 2 hours
 2D = every 2 days
 2W = every 2 weeks
 3M = every 3 months
 Cont = continuous

FOOTNOTES FOR TABLE I

- (1) During any day when bypassing occurs from any treatment unit(s) in the plant, the monitoring program for the effluent shall include the following in addition to the above schedule for sampling, measurement and analyses:
 1. Composite sample for BOD, total suspended solids, oil and grease.
 2. Grab sample for Coliform (Total), Settleable matter.
- (2) Oil and grease sampling shall consist of 3 grab samples taken at equal intervals during the sampling day, with each grab being collected in a glass container. A composite shall be made using equal volumes of each grab. Each glass container used for sample collection of mixing shall be thoroughly rinsed with solvent as soon as possible after use, and the solvent rinsings shall be added to the composite wastewater sample for extraction and analysis.
- (3) Chlorine residual following dechlorination shall be reported using the attached A or equivalent.